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DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20591

SEP 26 1967

IN REPLY
REFER TO: SB-1-96

Honorable William F. McKee
Administrator
Federal Aviation Administration
Department of Transportation
Washington, D. C. 20590

Dear General McKee:

On August 20, 1967 a Beechcraft, Model E18S, sustained damage as a result of severe elevator buffet. The airplane, N39L, had been converted to a turbo prop configuration by Volpar, Inc. in accordance with STC NO. SALL7LWE and was leased to Ransome Air Lines, Inc. It departed Washington National Airport and was en route to North Philadelphia with eight persons on board when the accident occurred. The tail buffet which came on suddenly and without warning was experienced in cruising flight at seven thousand feet in nonturbulent air. The airplane, although shaking and buffeting badly, was vectored safely to Baltimore after the pilot declared an emergency.

Examination disclosed that the buffet had been induced by an unrestrained left elevator trim tab. This lack of restraint resulted from a failure of the tab control rod at the threaded junction with the tab control mechanism plug, where the cross sectional area of the rod was reduced by an oversize rivet having a driven diameter of 0.132. Subsequent buffeting and vibration of the free tab resulted in tearing of the elevator leading edge skin and ribs and eventually caused separation of the inboard tab section holding the tab rod link and failed rod.

While it is possible that this tab rod failure may be an isolated case caused by the oversize rivet through the tab rod, the potentially catastrophic nature of such a failure for any reason appears to merit the issuance of an FAA Maintenance Alert Bulletin applicable to all generically similar Beech airplanes. In addition, we recommend that the pertinent inspection details also be included in subsequent FAA inspection aid summaries.

Honorable William F. McKee (2)

An inspection of the pertinent assembly is relatively simple since only two small inspection plates need be removed to visually determine whether or not the tab rods are straight and rigidly affixed to the tab control mechanism plugs. The tabs should be operated throughout the full range of travel while an observer notes operation of the tab-control assembly. If there is evidence of binding, tab-rod end play at the threaded plug junction, or tab-rod eccentricity, appropriate maintenance and/or replacement should be required before further flight.

Our Engineering Division personnel are available to provide any further information or assistance if desired.

Sincerely yours,

Original signed by

Joseph J. O'Connell, Jr.

Joseph J. O'Connell, Jr.
Chairman